

REMARKS

In response to the Office Action dated March 19, 2004, Applicants respectfully request reconsideration and withdrawal of the rejections of the claims. The indication that claim 35 contains allowable subject matter is noted with appreciation. In response thereto, this claim has been rewritten in independent form.

Claims 25 and 33 were rejected under 35 U.S.C. §102, on the grounds that they were considered to be anticipated by the newly-cited Ikemori patent (U.S. Patent No. 4,437,746). Among other features, claim 25 recites a lens element having a concave surface on the long conjugate distance side. In rejecting the claim, the Office Action refers to the lens element illustrated in Figure 3 of the *Ikemori* patent, and characterizes the surface b2 on the long conjugate distance side as being concave. However, it is respectfully submitted that this surface is convex, rather than concave. In this regard, see the *Ikemori* patent at column 1, lines 65-67. Note also the rejection of claim 1 (page 5 of the Office Action) in which the surface b2 is characterized as being convex.

It is respectfully submitted that the *Ikemori* patent does not disclose a lens element having a concave surface on the long conjugate distance side, and for at least this reason therefore does not anticipate claim 25.

Claim 33 has been canceled, and consequently the rejection of this claim is rendered moot.

Claims 28 and 34 were rejected under 35 U.S.C. §102, as being anticipated by the newly-cited Kaprelian patent (U.S. Patent No. 2,378,301). Claim 34 has been canceled, thereby rendering the rejection of this claim moot.

Claim 28 recites an optical system for use in an optical pickup to record information on a recording medium. Among other features, the claim recites that incident laser light is totally reflected at the second convex surface, again totally reflected at the first concave surface, and is imaged in the vicinity of the vertex of the second convex surface as a light spot, to optically record information on the recording medium.

The rejection of claim 28 refers to the Schmidt-type mirror illustrated in Figure 2 of the *Kaprelian* patent. The system shown in this figure is adapted for use as a photographic objective (column 2, lines 21-24). The patent does not disclose that this system images incident laser light as a light spot to optically record information on a recording medium. Accordingly, it is respectfully submitted that the *Kaprelian* patent does not anticipate the subject matter of claim 28.

Claim 29 was rejected under 35 U.S.C. §102, as being anticipated by the Braun patent (U.S. Patent No. 4,121,890). Similar to claim 28, claim 29 recites an optical system for use in an optical pickup to record information on a recording medium. Laser light which is reflected twice at the respective surfaces of the lens element is imaged in the vicinity of the vertex of the convex surface as a light spot, to optically record information on the recording medium. In contrast, the *Braun* patent is directed to a range and bore sight tester for optical laser range finders. The patent does not disclose the imaging of laser light to optically record information on a recording medium. Rather, reflected light which is incident at the apex 24 of the second surface 22 is conducted along the optical waveguide 28 to be reflected at the mirror 30, and then returned to the lens 20, for propagation back to a receiver 12. There is no disclosure in the *Braun* patent relating to the optical recording of

information on a recording medium. Accordingly, it is respectfully submitted that the *Braun* patent does not anticipate the subject matter of claim 29.

Claims 1, 2, 13, 14, 24, 30 and 32 were rejected under 35 U.S.C. §103, as being unpatentable over the *Ikemori* patent in view of the Medina Puerta et al patent (U.S. Patent No. 5,638,219). Noting that the *Ikemori* patent does not disclose that the second surface of the lens element is aspherical, the rejection relies upon the teaching of aspherical lens surfaces in the *Medina Puerta et al* patent, and alleges that it would be obvious to apply that teaching to the second surface of the lens shown in the *Ikemori* patent "so as to correct for spherical aberrations." It is respectfully submitted, however, that it would not be obvious to combine the teachings of these two references for such a purpose.

The *Ikemori* patent is directed to a photo metering device for single lens reflex cameras. The purpose of such a device is to "derive a light value," i.e. measure the amount of light, for purposes of exposure control. The *Ikemori* patent explicitly teaches against the use of aspheric lens surfaces, because they increase production costs. See column 1, lines 34-36.

The *Medina Puerta et al* patent is directed to a distinctly different area of technology, namely the magnification of images (see column 1, lines 5-6). There is no apparent reason why a person of ordinary skill in the art would apply teachings relating to the *magnification* of images to a light metering device, whose purpose is to measure the *amount* of light. The purposes behind these two optical systems are entirely distinct from one another. Furthermore, as noted above, the *Ikemori* patent explicitly teaches against the use of aspherical lens surfaces. For at least these reasons, therefore, it is respectfully submitted that it would not be obvious to

combine the teachings of the *Ikemori* and *Medina Puerta et al* patents, in the manner set forth in the Office Action. Accordingly, it is respectfully submitted that a *prima facie* case of obviousness has not been established against claims 1, 2, 13, 14 or 24. Claims 30 and 32 have been canceled, and therefore the rejection of these claims is rendered moot.

Claims 9, 10 and 31 were rejected under 35 U.S.C. §103 as being unpatentable over the *Kaprelian* patent in view of the *Medina Puerta et al* patent. Noting that the *Kaprelian* patent also does not disclose the use of aspherical lens surfaces, the Office Action again relies upon the teachings of the *Medina Puerta et al* patent, and alleges that it would be obvious to place an aspherical surface on the second surface of the lens in the *Kaprelian* patent, to correct for aspherical aberrations.

For reasons similar to those presented above, it is respectfully submitted that it would not be obvious to combine the teachings of the two patents, as suggested in the Office Action. Like the *Ikemori* patent, the *Kaprelian* patent explicitly teaches against the use of aspheric lens surfaces. At column 1, lines 15-19, the patent states: "Still another object of the invention is to provide a catadioptric optical system related to both the Schmidt reflector and the Cassegrainian mirror *but without necessitating the use of aspheric correcting plates. . .*" (emphasis added). At column 2, lines 34-37, the patent discloses how it is able to achieve corrections that are similar to those provided by an aspherical corrective plate, but without actually using aspherical lens surfaces. In light of these teachings, it is respectfully submitted that it would not be obvious to utilize aspherical lens surfaces in the structure disclosed by the *Kaprelian* patent.

Claims 21-23 and 26 were rejected under 35 U.S.C. §103, as being unpatentable over a combination of the *Ikemori* and *Medina Puerta et al* patents. Each of these claims depends from claim 25, either directly or indirectly. As noted previously, claim 25 recites a lens element having a concave surface on the long conjugate distance side, whereas the *Ikemori* patent discloses that the first surface of its lens element is convex. Furthermore, as discussed previously in connection with the rejection of claim 1, it would not be obvious to modify the structure of the *Ikemori* patent in view of the teachings of the *Medina Puerta et al* patent, since the *Ikemori* patent is directed to a different technology and explicitly teaches against the use of aspherical lens surfaces.

For at least these reasons, therefore, it is respectfully submitted that the references do not suggest the subject matter of claims 21-23 and 26.

New claims 36-40, 42, 43, 47 and 48 recite that the numerical aperture of the lens element medium exceeds a value of 1, and/or that evanescent light is used for the optical recording of the information onto the recording medium. Support for these new claims can be found in the specification, for example, at page 3, lines 22-26. It is respectfully submitted that these features are not taught by the cited references.


In view of the foregoing, it is respectfully submitted that all pending claims are patentably distinct from the cited references. Reconsideration and withdrawal of the rejections are therefore respectfully requested.

Respectfully submitted,

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Date: July 19, 2004

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